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## Three new species of litter inhabiting spiders of the genus *Scytodes* Latreille from northeastern Brazil

(Araneae, Scytodidae)

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Three new species of litter inhabiting *Scytodes* spiders are described. *Scytodes maresi*, spec. nov. from Mata do Pau Ferro, Areia, Paraíba; *Scytodes iabaday*, spec. nov. from Estação Biológica de Una, Ilhéus, Bahia; and *Scytodes hahahae*, spec. nov. from Parque Nacional de Monte Pascoal, Porto Seguro, Bahia, all in Brazil.

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### Introduction

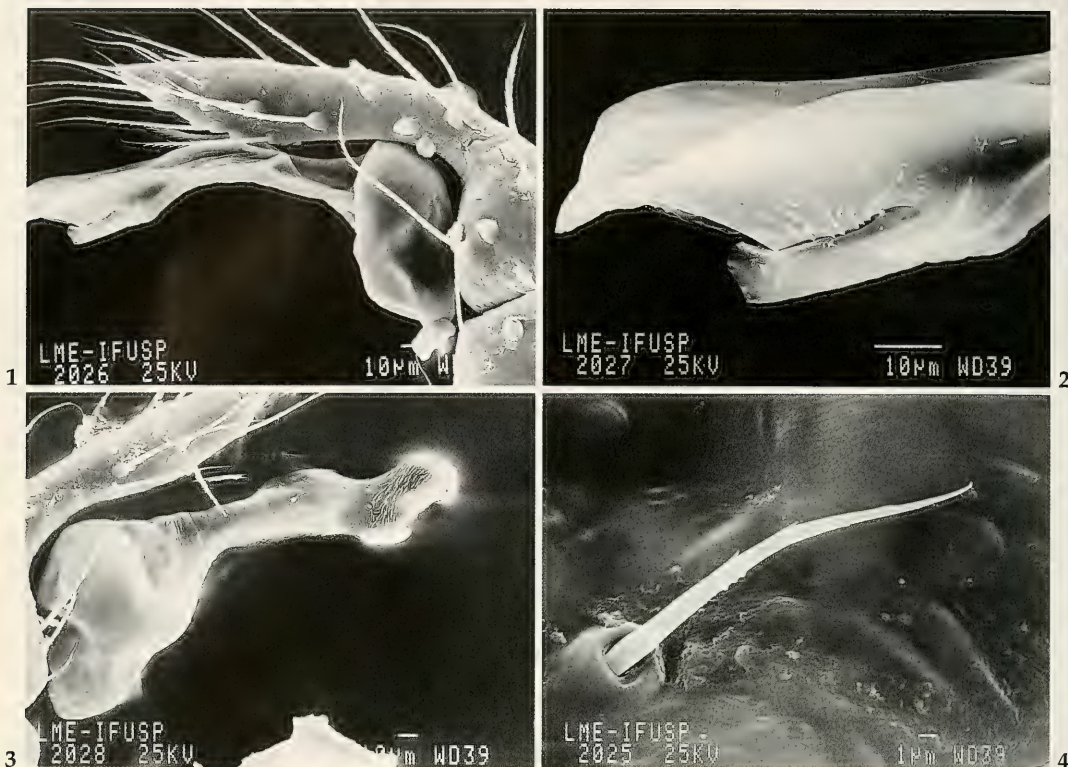
Until 1998, the Brazilian *Scytodes* comprised a group of fifteen species. Most of these were later synonymized (Brescovit & Rheims 2000) and a total of 10 new species were later described (Brescovit & Höfer 1999, Brescovit & Rheims 2000, Rheims & Brescovit 2000). As such, the Brazilian scytodid fauna today still comprises a total of fifteen valid species.

The most commonly known members of this family are large, long legged animals that inhabit holes and crevices or lie flat against the substrate (Valerio 1981). However, some scytodids are found inhabiting the ground litter layer. These spiders are very small, measuring between 1.0 and 3.0 mm. They differ from the larger, long legged species by the presence of characteristic feathery hairs covering the abdomen and carapace (Valerio 1981, Brescovit & Höfer 1999). Also, the species found in Amazonian non inundated rain forest (“Matas de Terra Firme”) and some restricted areas of the Atlantic Forest seem to be endemic.

In this paper we describe three new litter inhabiting scytodid species: two from southern Bahia and one from “Brejo” Forest in Paraíba, in Brazil.

### Material and Methods

The material examined belongs to the following collections: IBSP, Instituto Butantan, São Paulo (A. D. Brescovit); MCN, Museu de Ciências Naturais da Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (E. H. Buckup); UESC, Universidade Estadual de Santa Cruz, Ilhéus, Bahia (M. de Menezes). Descriptions and terminology follow Brescovit & Höfer (1999). All measurements are in millimeters. The epigynes were submerged in lactic acid to study internal structures. Micrographs were obtained with a JEOL (JSM 840A) scanning electron microscope from the “Laboratório de Microscopia Eletrônica do Departamento de Física Geral do Instituto de Física da Universidade de São Paulo (USP).”



**Figs 1-2.** *Scytodes maresi*, spec. nov. 1. Male palp, retrolateral view. 2. Distal area.  
**Figs 3-4.** *Scytodes iabaday*, spec. nov. 3. Male palp, retrolateral view. 4. Stridulatory pick.

*Scytodes maresi*, spec. nov.

Figs 1-2, 5-8

**Types.** Holotype: ♂, Mata do Pau Ferro, Areia, Paraíba, Brazil, Nov. 1999, A. D. Brescovit et al. (IBSP 25827). – Allotype: ♀, same data as holotype. – Paratypes: 1♂ (IBSP 25831); 1♀ (IBSP 25835); 1♂, 1♀ (MCN), all with the same data as holotype.

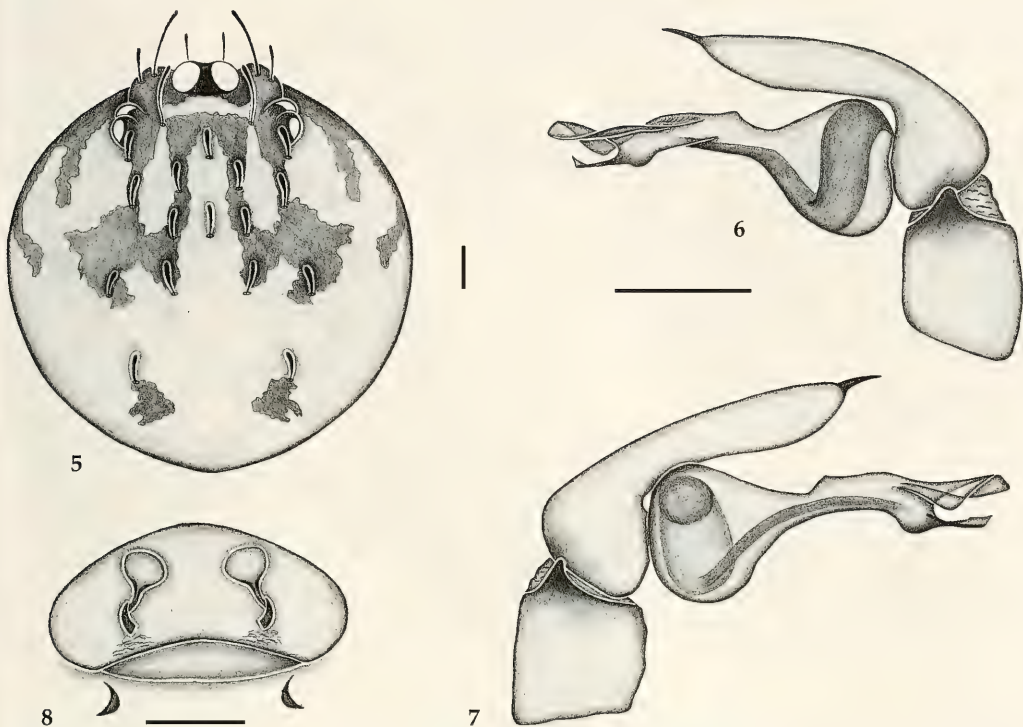
**Etymology.** The specific name honours the former president of the Fundação Nacional do Índio (FUNAI), Carlos Marés, who resigned after the conflicts between indians and the police, which occurred during the 500 years celebrations in Porto Seguro, Bahia, Brazil

**Diagnosis.** The male of *Scytodes maresi*, spec. nov. differs from the other litter inhabiting species by a ventral basal projection in the distal area of the palp (Figs 1-2) with distal triangular portion and basal rounded area (Figs 6-7). The female differs from the other species by the large size of the seminal receptacles and the very thin stalks (Fig. 8).

**Description**

**Male** (IBSP 25825). Carapace orange with brown margins and brown central pattern as shown on fig. 5. Pedipalps yellow. Labium and endites yellow. Sternum yellow with brownish margin. Legs yellow. Abdomen cream colored with brown transversal bands.

Total length 1.66. Carapace arched, 0.94 long, 0.84 wide, covered with short feathery hairs, longer on ocular area. Eye diameters: PME 0.07, ALE 0.06, PLE 0.07. Lateral eyes on tubercle. Chelicerae with subapical hyaline keel. Labium 0.07 long, 0.13 wide. Sternum 0.48 long, 0.44 wide. Legs: I – femur 0.82 / patella 0.22 / tibia 0.76 / metatarsus 0.66 / tarsus 0.36 / total 2.82 / II – 0.66 / 0.22 / 0.62 / 0.54 / 0.32 / 2.36 / III – 0.52 / 0.22 / 0.40 / 0.38 / 0.22 / 1.74 / IV – 0.64 / 0.22 / 0.54 / 0.52 / 0.24 / 2.16. Palpal femur



**Figs 5-8.** *Scytodes maresi*, spec. nov. 5. Male carapace, dorsal view. 6. Male palp, retrolateral view. 7. Prolateral view. 8. Female epigynum, dorsal view. Scale lines = 0.05 mm.

presenting stridulatory pick as in *S. iabaday*, spec. nov. Cymbium with long and slender distal spine. Bulb 0.18 long, medially constricted (Fig. 7). Distal area presenting dorsal groove and prolateral fold (Figs 1, 6-7). The prolateral fold with several small semicircular projections only visible under the electronic microscope (Fig. 2). Abdomen 0.72 long, 0.70 wide, rounded, covered with large feathery hairs.

**Female** (IBSP 25825). Coloration as in male.

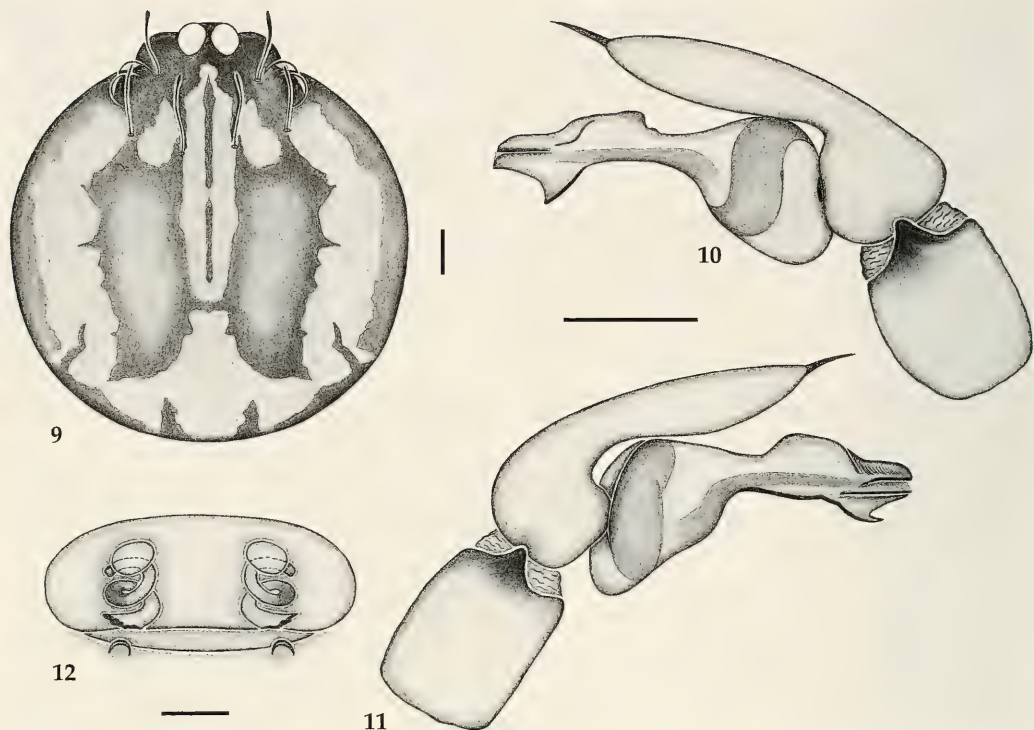
Total length 1.68. Carapace arched, 0.88 long, 0.82 wide, as in male. Eye diameters: PME 0.06, ALE 0.05, PLE 0.06. Lateral eyes on tubercle. Chelicerae as in male. Labium 0.10 long, 0.14 wide. Sternum 0.46 long, 0.44 wide. Legs: I – femur 0.78 / patella 0.22 / tibia 0.68 / metatarsus 0.54 / tarsus 0.32 / total 2.54 / II – 0.56 / 0.22 / 0.48 / 0.50 / 0.28 / 2.04 / III – 0.44 / 0.20 / 0.36 / 0.34 / 0.16 / 1.50 / IV – 0.58 / 0.20 / 0.48 / 0.46 / 0.22 / 1.94. Fovea semicircular widely separated. Internal genitalia with short narrow stalks with sclerotized adjacent area (Fig. 8). Abdomen 0.80 long, 0.88 wide, as in male.

**Variation.** Ten ♂♂: total length 1.54-1.70; carapace 0.86-0.96; femur I 0.72-0.88; bulb 0.16-0.19; five ♀♀: total length 1.62-1.78; carapace 0.88-1.00; femur I 0.68-0.78.

**Distribution.** Known only from Paraíba, Brazil.

**Natural History.** The specimens were collected in pitfall traps and Winkler sampling bags. This species seems to be endemic to the region associated with the so called “Matas de Brejo”, in the state of Paraíba, Brazil. These areas are defined by Ab’Saber (1999) as humidity islands in the middle of the “sertões” (semi-arid areas). These are composed by tropical forests on high grounds, with well irrigated soils and permanent water courses (Mayo & Fevereiro 1982, Ab’Saber 1999).

**Material examined.** Brazil, Paraíba: Areia (Mata do Pau Ferro), 1♂, 3 juv., Sept. 1999, A. D. Brescovit et al. (IBSP 25823); 2♂♂, 2 juv., Sept. 1999, A. D. Brescovit et al. (IBSP 25824); 1♂, 1♀, 5 juv., Sept. 1999, A. D. Brescovit et al. (IBSP 25825); 1♂, 3 juv., Sept. 1999, A. D. Brescovit et al. (IBSP 25826), (06°57' S; 35°44' W), 1♀, Sept. 1999, A. D.



**Figs 9-12.** *Scytodes iabaday*, spec. nov. **9.** Male carapace, dorsal view. **10.** Male palp, retrolateral view. **11.** prolateral view. **12.** Female epigynum, dorsal view. Scale lines = 0.05 mm.

Brescovit et al. (IBSP 25829), 1♂, Sept. 1999, A. D. Brescovit et al. (IBSP 25830), 1♂, Sept. 1999, A. D. Brescovit et al. (IBSP 25832), 1♂, Sept. 1999, A. D. Brescovit et al. (IBSP 25833), 1♀, Sept. 1999, A. D. Brescovit et al. (IBSP 25834), 1♀, Sept. 1999, A. D. Brescovit et al. (IBSP 25836).

### *Scytodes iabaday*, spec. nov.

Figs 3-4, 9-12

**Types.** Holotype: ♂, Reserva Biológica de Una, Ilhéus, Bahia, Brazil, Apr. 23, 1998, A. D. Brescovit et al. (IBSP 18009). – Allotype: ♀, same locality as holotype, Apr. 11, 1998, A. D. Brescovit et al. (IBSP 19308). – Paratypes: 1♂, Parque Nacional do Pau Brasil, Porto Seguro, Bahia, Apr. 23, 1998, A. D. Brescovit et al. (IBSP 17992); ♀, same data as holotype (IBSP 17977).

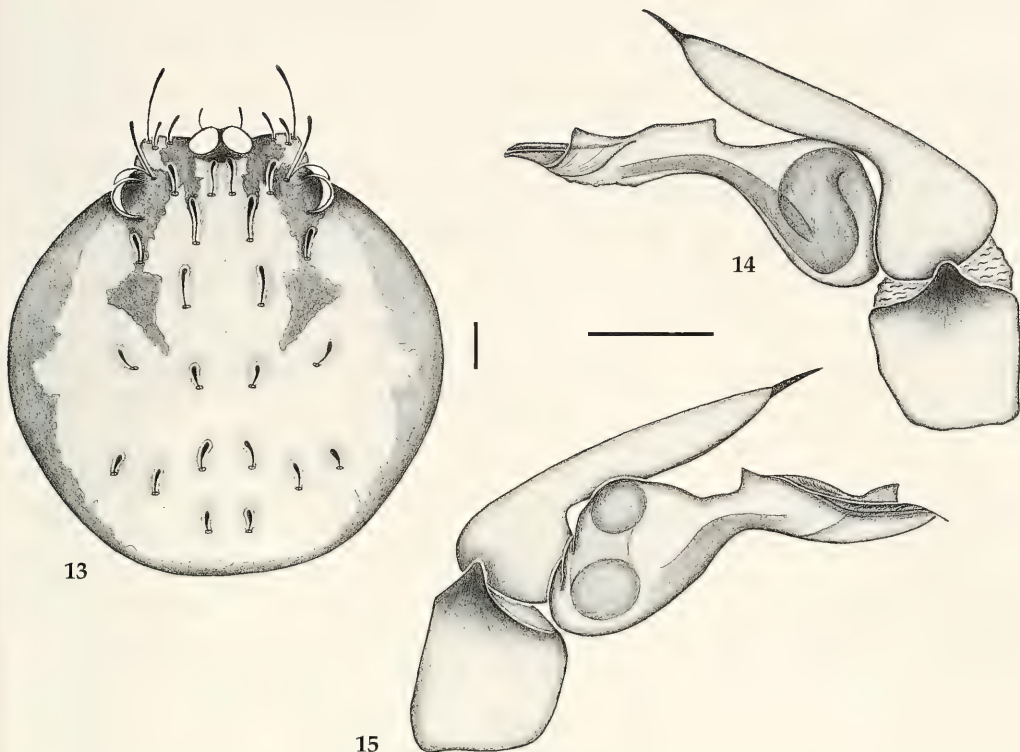
**Etymology.** The specific name honours Henrique Iabaday from the Suruí Tribe. The indian directly defied the President of the Brazilian Congress during the 500 Years celebrations.

**Diagnosis.** The male of *Scytodes iabaday*, spec. nov. differs from the other litter inhabiting species by the distal area of the male palp with ventral triangular projection and elevated squared dorsal area (Figs 10-11). The female differs by the spiraled stalk of the pair of seminal receptacles (Fig. 12).

### Description

**Male** (IBSP 18009). Carapace light brown with dark brown pattern in center and along margin (Fig. 9). Pedipalps yellow with brownish stains at the base of femora. Labium and endites yellow. Sternum cream colored with brown stains at the base of the coxae. Legs yellow with brownish stains at the base of femora. Abdomen cream colored with brown transversal bands.

Total length 1.80. Carapace arched, 0.98 long, 0.86 wide, with long feathery hairs on ocular area (Fig. 9). Eye diameters: PME 0.06, ALE 0.07, PLE 0.07. Lateral eyes on tubercle. Chelicerae with



**Figs 13-15.** *Scytodes hahahae*, spec. nov. 13. Male carapace, dorsal view. 14. Male palp, retrolateral view. 15. Proximal view. Scale lines = 0.05 mm.

subapical hyaline keel. Labium 0.06 long, 0.08 wide. Sternum 0.48 long, 0.44 wide. Legs: I – femur 0.64 / patella 0.22 / tibia 0.78 / metatarsus 0.66 / tarsus 0.38 / total 2.68 / II – 0.64 / 0.18 / 0.60 / 0.52 / 0.36 / 2.30 / III – 0.50 / 0.20 / 0.40 / 0.38 / 0.24 / 1.72 / IV – 0.64 / 0.22 / 0.52 / 0.48 / 0.30 / 2.16. Palpal femur presenting stridulatory pick long and slender with rounded and projected socket (Fig. 4). Cymbium with a long and slender distal spine (Figs 10-11). Bulb 0.16 long, distal area with semicircular projections only visible under electronic microscope (Fig. 3). Abdomen 0.82 long, 0.84 wide, rounded, covered with large feathery hairs.

**Female** (IBSP 19308). Coloration as in male.

Total length 2.16. Carapace 0.94 long, 0.90 wide, as in male. Eye diameters: PME 0.07, ALE 0.06, PLE 0.06. Lateral eyes on tubercle. Chelicerae as in male. Labium 0.11 long, 0.12 wide. Sternum 0.41 long, 0.45 wide. Legs: I – femur 0.64 / patella 0.22 / tibia 0.60 / metatarsus 0.56 / tarsus 0.30 / total 2.32 / II – 0.60 / 0.20 / 0.54 / 0.52 / 0.30 / 2.16 / III – 0.58 / 0.24 / 0.40 / 0.40 / 0.24 / 1.86 / IV – 0.72 / 0.24 / 0.54 / 0.52 / 0.26 / 2.28. Positioning ridge transversal with fovea semicircular widely separated. Internal genitalia with a pair of oval seminal receptacles and sclerotized area adjacent to base of stalks. Abdomen 1.22 long, 0.94 wide, as in male.

Variation. Six ♂♂: total length 1.40-1.80; carapace 0.84-1.06; femur I 0.64-0.84; bulb 0.13-0.17; two ♀♀: total length 1.82-2.16; carapace 0.94-1.00; femur I 0.64-0.90.

**Distribution.** South of Bahia, Brazil.

**Natural History.** The specimens were collected in pitfall traps and by manual litter sorting.

**Material examined.** Brasil. Bahia: Ilhéus, 1♂, F. Dias (UESC); (Campus do CEPLAC), 1♀, Apr. 11, 1998, A. D. Brescovit et al. (IBSP 19233); (Reserva Biológica de Una), 2♂♂, F. Dias (UESC), 1♂, F. Dias (IBSP 25828), 1♂, F. Dias (IBSP 25829).

*Scytodes hahaha*, spec. nov.

Figs 13-15

**Types.** Holotype: ♂, Parque Nacional do Monte Pascoal, Porto Seguro, Bahia, Apr. 21-23, 1998, A. D. Brescovit et al. (IBSP 19460).

**Etymology.** The specific name honors the hã-hã-hãe pataxó tribe from southern Bahia, whose chief, Nailton Pataxó, was the leader of the movement against the 500 years celebrations.

**Diagnosis.** The male of *Scytodes hahaha* differs from the other litter inhabiting species by the distal area of the palp with a retrolateral pocket-like projection (Fig. 14) and a pointed projection in the basal area (Fig. 15).

**Description**

**Male** (IBSP 19460). Carapace yellow with brown pattern behind eyes and along the margin (Fig. 13). Pedipalps yellow. Labium and endites yellow with light brown margin. Sternum yellow with light brown margin. Legs yellow. Abdomen cream colored with brown transversal bands.

Total length 1.80. Carapace arched, 0.92 long, 0.84 wide, covered with short feathery hairs, longer on ocular area (Fig. 13). Eye diameters: PME 0.07, ALE 0.07, PLE 0.07. Lateral eyes on tubercle. Chelicerae with subapical hyaline keel. Labium 0.06 long, 0.09 wide. Sternum 0.46 long, 0.45 wide. Legs: I – femur 0.84 / patella 0.20 / tibia 0.80 / metatarsus 0.78 / tarsus 0.28 / total 2.90 / II – 0.72 / 0.22 / 0.66 / 0.64 / 0.30 / 2.54 / III – 0.58 / 0.22 / 0.44 / 0.44 / 0.20 / 1.88 / IV – 0.64 / 0.22 / 0.58 / 0.56 / 0.26 / 2.26. Palpal femur presenting stridulatory pick as in *S. iabaday*, spec. nov. Cymbium with a long and slender distal spine. Bulb 0.18 long, with dorsal groove with prolateral long and slender rim (Fig. 15). Abdomen 0.88 long, 0.76 wide, rounded, covered with large feathery hairs.

**Female.** Unknown.

**Distribution.** Southern Bahia, Brazil.

**Natural History.** The specimen was collected in manual litter sampling.

**Material examined.** Only the type.

**Acknowledgements**

We wish to thank Prof. Pedro Kiyohara and Miss Simone Perche de Toledo (USP) for the scanning electron micrographs, Hubert Höfer for helpful comments on the manuscript, Maria de F. Dias and Dr. Max Menezes for the loan of material. This work was supported by CNPq and “Fundação de Amparo à Pesquisa do Estado de São Paulo” (FAPESP No. 96/7052-9; 98/11532-1).

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